Page 14, line 1, after "08/756,745" insert -- , now Patent No. 5,825,308 --.

Page 17, line 21, after "08/374,288" insert -- , now Patent No. 5,731,804, --.

Page 17, line 21, after "08/400,233" insert -- , now Patent No. 5,767,839, --.

Page 17, line 21, after "08/489,068" insert -- , now Patent No. 5,721,566, --.

Page 17, line 21, after "08/560,091" insert -- , now Patent No. 5,805,140, --.

Page 17, line 21, after "08/623,660" insert -- , now Patent No. 5,691,898, --.

Page 17, line 22, after "08/736,161" insert -- , now Patent No. 5,828,197, --.

Page 18, line 14, delete "(Atty Docket No. IMM1P006)"

In the Claims:

All pending claims are listed below. Claims which have been changed by this amendment are labelled as "amended."

Please cancel claims 1-14 without prejudice.

15. (amended) A handheld [force feedback] remote control device for adjusting a plurality of functions on at least one electronic device [providing input to an electronic device] located remotely from said remote control device, said remote control device adjusting its tactile feel in accordance with a selected one of said plurality of functions selected by said user, the remote control device comprising:

a [wheel] rotatable member shaped approximately like a wheel or knob, said rotatable member rotatably coupled to a housing of said remote control device and rotatable about an axis, said [wheel being manipulated] rotatable member manipulatable by a user;

a sensor coupled to said rotatable member, said sensor sensing a rotation of said rotatable member and providing data based on said rotation to said one or more electronic devices;

an actuator coupled to said [wheel] rotatable member, said actuator [for] outputting a computer-modulated force [detent] sensation on said [wheel] rotatable member, said force [detent] sensation felt by said user [wherein said force detent is provided at a predetermined rotational position of said wheel]; and

a controller coupled to said actuator and to said sensor, said controller modulating said actuator to create a force sensation upon said user that corresponds with said selected one of said functions.

[a sensor that senses rotation of said wheel and provides a wheel signal to said electronic device indicating a rotary position of said wheel.]

Please cancel claim 16 without prejudice.

17. (amended) A [force feedback wheel] remote control device as recited in claim 15 wherein said remote control device sends signals to said at least one electronic device using wireless transmission of information using an electromagnetic beam.

18. (amended) A [force feedback wheel] remote control device as recited in claim 15 wherein said at least one electronic device includes a video game console and wherein said remote control device includes a game controller for inputting signals to said video game console.

Please cancel claims 19-35 without prejudice.

Please add the following claims:

36. (new) A handheld remote control device as recited in claim 15 wherein said plurality of functions include controlling a volume for audio output, selecting a received broadcast station or channel from multiple stations or channels, and scrolling through a list of selections.

37. (new) A handheld remote control device as recited in claim 36 wherein said force sensation corresponding with controlling said volume for audio output includes a damping or friction sensation.

38. (new) A handheld remote control device as recited in claim 36 wherein said force sensation corresponding with selecting said broadcast station or channel includes a detent or jolt sensation.

39. (new) A handheld remote control as recited in claim 38 wherein detents or jolts of said detent or jolt sensation are spaced to correspond with a selection of particular stations or channels.

40. (new) A handheld remote control device as recited in claim 36 wherein said force sensation corresponding with scrolling through a list of selections includes a spring return sensation.

41. (new) A handheld remote control device as recited in claim 40 wherein said scrolling is achieved through an isometric control paradigm.

42. (new) A handheld remote control device as recited in claim 15 wherein said controller can provide both isometric and isotonic interface paradigms to said user.

43. (new) A handheld remote control device as recited in claim 15 wherein said controller assigns one of a plurality of different levels of simulated inertia to said rotatable member, said assigned level of inertial based upon said selected function.

44. (new) A handheld remote control device as recited in claim 15 wherein said controller assigns detents with varying rotary spacing to said rotatable member, said assigned rotary spacing based upon said selected function.

45. (new) A handheld remote control device as recited in claim 15 wherein said controller assigns hard stops at different locations within a range of travel of said rotatable member, said assigned location based upon said selected function.

46. (new) A handheld remote control device as recited in claim 15 wherein said controller assigns different levels of simulated damping to said rotatable member, said assigned level of simulated damping based upon said selected function.

47. (new) A handheld remote control device as recited in claim 15 wherein said controller assigns different levels of simulated friction to said rotatable member, said assigned level of simulated friction based upon said selected function.

48. (new) A handheld remote control device as recited in claim 15 wherein said rotatable member can be depressed by said user, wherein depressing said rotatable member causes said selection to be made.

49. (new) A method for providing a force feedback mouse wheel on a mouse device, said mouse device coupled to a host computer, the method comprising:

enabling a sensing of a position of a mouse of said mouse device in a planar workspace and sending an indication of said position to a host computer, said position of said mouse being changed by said user by moving a housing of said mouse in said planar workspace;

enabling a sensing of a rotation of said force feedback mouse wheel about an axis of rotation when said mouse wheel is rotated by a digit of said user and enabling a sending of a wheel signal to said host computer indicating a current position of said wheel about said axis, said mouse wheel rotatable independently of said mouse position in said planar workspace; and

enabling an application of a force to said mouse wheel about said axis using a wheel actuator coupled to said mouse wheel, said user feeling said force through said digit of said user,

50. (new) A method as recited in claim 49 wherein said force is coordinated with an event occurring in said graphical environment.

51. (new) A method as recited in claim 49 wherein said sensing a rotation of said mouse wheel includes sensing an absolute position of said mouse wheel about said axis.

52. (new) A method as recited in claim 49 wherein said sensing a rotation of said mouse wheel includes sensing a change in position of said mouse wheel from a previously sensed position.

53. (new) A method as recited in claim 49 wherein said applying a force to said mouse wheel is commanded by a local microprocessor included in said mouse interface device and separate from said host computer.

54. (new) A method as recited in claim 50 wherein said event is a scrolling of a displayed document as controlled by said sensed rotation of said mouse wheel and said wheel signal.

55. (new) A method as recited in claim 50 wherein said event is an interaction of a cursor with a graphical object implemented by said host computer, said cursor having motion in two dimensions of a display screen influenced by both said position of said mouse in said planar workspace and said rotation of said wheel.

56. (new) A method as recited in claim 55 wherein said interaction is a collision of said cursor with said graphical object.

57. (new) A method as recited in claim 49 wherein said force is one of a damping force sensation, an inertial force sensation, and a friction force sensation.

58. (new) A method as recited in claim 49 wherein said force is a force detent sensation.

59. (new) A method as recited in claim 49 wherein said force is one of an obstruction force sensation, a texture sensation, a jolt sensation, and a vibration sensation.

60. (new) A method as recited in claim 49 further comprising receiving a mode selection, said mode selection indicating an isotonic mode or an isometric mode for said mouse wheel, wherein said force applied to said mouse wheel are different depending on said selected mode.

61. (new) A method as recited in claim 60 wherein said force output on said wheel includes a plurality of detents in said isotonic mode, and wherein said force output on said wheel includes a spring force in said isometric mode.

62. (new) A method as recited in claim 61 wherein said event causing said detents and said spring force to be output is a scrolling of a document in said graphical environment.

63. (new) An interface device for interfacing a user's input with a host computer and providing force feedback to said user, said interface device comprising:

a user manipulandum contacted and manipulated by a user and moveable in two degrees of freedom;

a workspace sensor coupled to said user manipulandum for detecting a position of said user manipulandum in said two degrees of freedom and operative to send one or more position signals to said host computer indicating a position of said user manipulandum in said two degrees of freedom;

a rotatable wheel coupled to said interface device and rotatable about a wheel axis independently of said position of said user manipulandum in said two degrees of freedom, said wheel rotatable by a digit of said user;

a wheel sensor coupled to said wheel and providing a wheel signal to said host computer indicating a rotary position of said wheel; and

a wheel actuator coupled to said rotatable wheel and operative to apply a computer-modulated force to said rotatable wheel about said wheel axis, wherein said force is modulated as a function of time or wheel position about said wheel axis to convey a force sensation to said user through said digit of said user.

64. (new) An interface device as recited in claim 63 wherein said user manipulandum includes a mouse object and wherein said rotatable wheel is coupled to said mouse object.

65. (new) An interface device as recited in claim 64 wherein said workspace sensor includes a ball and roller assembly.

66. (new) An interface device as recited in claim 64 further comprising a workspace actuator for applying a force to said user manipulandum in said two degrees of freedom.

67. (new) An interface device as recited in claim 63 wherein said rotary wheel rotates about an axis approximately parallel to said planar workspace.

68. (new) An interface device as recited in claim 63 wherein said wheel can be depressed into a housing of said user manipulandum.

69. (new) An interface device as recited in claim 63 further comprising a local micrprocessor, separate from said host computer, coupled to said actuator and controlling said actuator to apply said computer-modulated force on said wheel.

70. (new) An interface device as recited in claim 63 wherein said host computer is running a graphical environment and wherein said force applied to said wheel corresponds with an event or interaction displayed in said graphical environment.

71. (new) An interface device as recited in claim 63 wherein said wheel actuator outputs a set of isotonic forces when said wheel is in an isotonic mode, and wherein said wheel actuator outputs a set of isometric forces when said wheel is in an isometric mode.

72. (new) An interface device as recited in claim 63 wherein said computer-modulated force includes force detents provided at predetermined rotary positions of said wheel.

73. (new) An interface device as recited in claim 72 wherein said computer-modulated force includes a spring return force resisting motion of said wheel, wherein either said force detents or said spring return force are output when said user scrolls a document in a graphical user interface, and wherein said force detents are output in one control mode and said spring return force is output in a different control mode.

74. (new) An interface device as recited in claim 63 wherein said wheel actuator is one of a passive actuator and an active actuator.